

**A REPORT OF THE AAWG
RECOMMENDATIONS FOR REGULATORY ACTION TO PREVENT
WIDESPREAD FATIGUE DAMAGE IN THE COMMERCIAL AIRPLANE FLEET**

2.0 AVIATION RULEMAKING ADVISORY COMMITTEE TASKING

On August 28, 1997, the FAA formally notified the Aviation Rulemaking Advisory Committee; Transport Airplane and Engines Group through the Federal Register (Page 62 FR 45690 No. 167 08/28/97) of a new task assignment for action. The complete text of the Tasking Statement appears in Appendix A. Subsequently, the Transport Airplane and Engines Issues Group assigned action to the Airworthiness Assurance Working Group. The Task Assignment involves completion of the following tasks.

Task Title: ANM-97-434-A - Task 5: FAR/JAR 25, Aging Aircraft

Task Description:

(1) ARAC is tasked to review the capability of analytical methods and their validation; related research work; relevant full-scale and component fatigue test data; and tear down inspection reports, including fractographic analysis, relative to the detection of widespread fatigue damage (WFD). Since airplanes in the fleet provide important data for determining where and when WFD is occurring in the structure, ARAC will review fractographic data from representative fleet leader airplanes. Where sufficient relevant data for certain airplane models does not exist, ARAC will recommend how to obtain sufficient data from representative airplanes to determine the extent of WFD in the fleet. The review should take into account the Airworthiness Assurance Harmonization Working Group report Structural Fatigue Evaluation for Aging Aircraft dated October 14, 1993, and extend its applicability to all transport category airplanes having a maximum gross weight greater than 75,000 pounds.

(2) ARAC will produce time standards for the initiation and completion of model specific programs (relative to the airplane's design service goal) to predict, verify and rectify widespread fatigue damage. ARAC will also recommend action that the Authorities should take if a program, for certain model airplanes, is not initiated and completed prior to those time standards. Actions that ARAC will consider include regulations to require Type Certificate holders to develop WFD programs, modification action, operational limits, and inspection requirements to assure structural integrity of the airplanes. ARAC will provide a discussion of the relative merits of each option.

This task should be completed within 18 months of tasking.

As a result of the completion of the tasking, the FAA expects a task report detailing the investigations conducted along with recommendations for further FAA Action. While the recommendations may include a requirement to develop regulatory action, the actual writing of that requirement will be reserved to the FAA or assigned as an additional ARAC Tasking.

**A REPORT OF THE AAWG
RECOMMENDATIONS FOR REGULATORY ACTION TO PREVENT
WIDESPREAD FATIGUE DAMAGE IN THE COMMERCIAL AIRPLANE FLEET**

This report comprises the recommendations from the AAWG on the task assignment from ARAC. The Working Group Activity Reports presented to ARAC by the AAWG documenting the progress in completing the task are contained in Appendix B.